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CHOKSHI, PINKAL R	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/541,409	SALOMONS, EDUARD W.	
	Examiner	Art Unit	
	PINKAL CHOKSHI	2425	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *25 September 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-55* is/are pending in the application.

4a) Of the above claim(s) *19-29 and 38-55* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-18 and 30-38* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *01 July 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. **Claims 19-29 and 39-55** are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim cannot depend on any other multiple dependent claims. See MPEP § 608.01(n). Accordingly, the claims 19-29 and 39-55 have not been further treated on the merits.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. **Claims 18, 21, 30, 31 and 32** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

- Regarding claim 18, it is unclear when claiming "…decrease gradually the rate of reproduction rate increase." It is ambiguous what the Applicant means by decreasing production rate and not clearly defining increasing which element. Applicant is asked to clarify. For the purpose of examination, it is the Examiner's position that any distance reads on above limitation and such is in accordance with broadest reasonable interpretation, and from the perspective of one having ordinary skill in the art.

- Regarding claim 21, the phrase "such as" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).
- Regarding claims 30 and 31, the phrase "or the like" renders the claim indefinite because it is unclear whether the limitation(s) following the phrase are part of the claimed invention. See MPEP § 2173.05(d).
- Regarding claim 32, it is unclear when claiming "…responsive to a jump event for deleting or disregarding data in a or the channel buffer." It is ambiguous what the Applicant means by "jump event". Applicant is asked to clarify. For the purpose of examination, it is the Examiner's position that any distance reads on above limitation and such is in accordance with broadest reasonable interpretation, and from the perspective of one having ordinary skill in the art.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. **Claims 1-18 and 30-38** are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 6,452,943 to Furuya (hereafter referenced as Furuya) in view of US PG Pub 2003/0097662 to Russ (hereafter referenced as Russ).

Regarding **claim 1,** "an audio-visual content transmission system" reads on the video server system includes a transmitter to transmit audio/video content to receiver (abstract) disclosed by Furuya and represented in Fig. 2.

As to "system comprising source (15) and destination stations (18, 19, 32) and a channel buffer (23-25, 28-33) distributed between the stations" Furuya discloses (col.9, line 66-col.10, line 2, lines 20-22 and col.12, lines 18-23) that the system includes transmitter and receiver with a channel buffer as represented in Fig. 11 (elements 100, 200, 107, 202).

As to "the system including control means (53; 88) for controlling content to be reproduced at the destination station at a lower rate than a rate of production at the source station" Furuya discloses (col.16, lines 8-15; col.17, lines 7-16) that the control data transmitting units in transmitter and receiver controls the transmission cycle of the content being produced at the receiver as represented in Fig. 16 (element 308) and Fig. 17 (element 408).

Furaya meets all the limitations of the claim except "content is being reproduced at destination station at lower rate than a rate at the source station." However, Russ discloses (¶0056 and ¶0062) that the master set-top box re-encodes the received signal to a lower bit-rate format before transmitting to remote set-top boxes as represented in Fig. 2A (elements 281, 277). Therefore, it would have been obvious to one of the ordinary skills in the art at the time of the invention to modify Furuya's system by lowering reproduction rate at the

destination station as taught by Russ in order to transfer audio/video stream using less bandwidth to multiple destination device (¶0044).

Regarding **claim 2,** "a system in which the control means (53; 88) is arranged to reproduce one frame and to maintain that frame until the buffer reaches a desired degree of fullness" Furuya discloses (col.7, lines 46-52 and col.12, line 60-col.13, line 3) that when the receiver detects that only one cycle of video data is present in the buffer memory of receiver, control data transmitting unit shortens the transmitting time of the video data and uses the same video data until buffer memory reaches a certain level.

Regarding **claim 3,** "a system in which the control means (53; 88) is arranged to reproduce the content at a rate which is dependent on the normal reproduction duration of the content stored in the channel buffer" Furuya discloses (col.3, lines 40-44 and col.4, lines 53-56) that based on the data stored in the buffer, receiver receives and reproduces video data at a predetermined rate as represented in Fig. 9.

Regarding **claim 4,** "a system in which the control means (53; 88) is arranged to reproduce one frame at the destination station, to maintain that frame until the buffer reaches a predetermined degree of fullness" Furuya discloses (col.7, lines 46-52 and col.12, line 60-col.13, line 3) that when the

receiver detects that only one cycle of video data is present in the buffer memory of receiver, control data transmitting unit shortens the transmitting time of the video data and uses the same video data until buffer memory reaches a certain level.

Furaya meets all the limitations of the claim except "subsequently to reproduce the content at a rate lower than the production rate and then to increase gradually the reproduction rate" Russ discloses (¶0056 and ¶0062) that the master set-top box re-encodes the received signal to a lower bit-rate format before transmitting to remote set-top boxes as represented in Fig. 2A (elements 281, 277). Russ further discloses (¶0054) that the controller at the remote STB shows low bit rate signal video and at some point in time, after higher quality signal finished encoding and started transmitting, the controller at remote STB merges high quality signal with low quality signal and gradually lowered quality signal would be removed, leaving only the standard high quality signal rate to be displayed. Therefore, it would have been obvious to one of the ordinary skills in the art at the time of the invention to modify Furuya's system by lowering reproduction rate at the destination station as taught by Russ in order to transfer audio/video stream using less bandwidth to multiple destination device (¶0044).

Regarding **claim 5,** "a system in which the control means (53; 88) is arranged to reproduce the content at the destination station (18, 19, 32) at a substantially constant rate until a desired level of buffer fullness is reached"

Furuya discloses (col.18, lines 4-11 and col.19, lines 17-45) that the receiver reproduces the video data at a constant rate. When an underflow appears possible, control data message is sent to transmitter and transmitter sends video data to receiver until the desired level of buffer fullness is reached.

Furaya meets all the limitations of the claim except "content data is reproduced at destination station until buffer fullness is reached." Russ discloses (¶0056 and ¶0062) that the master set-top box re-encodes the received signal to a lower bit-rate format before transmitting to remote set-top boxes as represented in Fig. 2A (elements 281, 277). Russ further discloses (¶0054) that the controller at the remote STB shows low bit rate signal video and at some point in time, after higher quality signal finished encoding and started transmitting, the controller at remote STB merges high quality signal with low quality signal and gradually lowered quality signal would be removed, leaving only the standard high quality signal rate to be displayed. Therefore, it would have been obvious to one of the ordinary skills in the art at the time of the invention to modify Furuya's system by lowering reproduction rate at the destination station as taught by Russ in order to transfer audio/video stream using less bandwidth to multiple destination device (¶0044).

Regarding **claim 6,** "a system in which the control means (53; 88) is arranged to increase the reproduction rate in a substantially linear fashion until the intended reproduction rate is reached" Russ discloses (¶0056 and ¶0062)

that the master set-top box re-encodes the received signal to a lower bit-rate format before transmitting to remote set-top boxes as represented in Fig. 2A (elements 281, 277). Russ further discloses (¶0054) that the controller at the remote STB shows low bit rate signal video and at some point in time, after higher quality signal finished encoding and started transmitting, the controller at remote STB merges high quality signal with low quality signal and gradually lowered quality signal would be removed, leaving only the standard high quality signal rate to be displayed. Therefore, it would have been obvious to one of the ordinary skills in the art at the time of the invention to modify Furuya's system by lowering reproduction rate at the destination station as taught by Russ in order to transfer audio/video stream using less bandwidth to multiple destination device (¶0044).

Regarding **claim 7,** "a method of operating an audio-visual content transmission system" reads on the video server system includes a transmitter to transmit audio/video content to receiver (abstract) disclosed by Furuya and represented in Fig. 2.

As to "method comprising source (15) and destination (18, 19, 32) stations and a channel buffer (23-25, 28, 29, 33) distributed between the stations" Furuya discloses (col.9, line 66-col.10, line 2, lines 20-22 and col.12, lines 18-23) that the system includes transmitter and receiver with a channel buffer as represented in Fig. 11 (elements 100, 200, 107, 202).

As to "the method comprising controlling contents to be reproduced at the destination station at a lower rate than a rate of production at the source station" Furuya discloses (col.16, lines 8-15; col.17, lines 7-16) that the control data transmitting units in transmitter and receiver controls the transmission cycle of the content being produced at the receiver as represented in Fig. 16 (element 308) and Fig. 17 (element 408).

Furaya meets all the limitations of the claim except "content is being reproduced at destination station at lower rate than a rate at the source station." However, Russ discloses (¶0056 and ¶0062) that the master set-top box re-encodes the received signal to a lower bit-rate format before transmitting to remote set-top boxes as represented in Fig. 2A (elements 281, 277). Therefore, it would have been obvious to one of the ordinary skills in the art at the time of the invention to modify Furuya's system by lowering reproduction rate at the destination station as taught by Russ in order to transfer audio/video stream using less bandwidth to multiple destination device (¶0044).

Regarding **claim 8,** "a method in which the controlling step comprises reproducing one frame and maintaining that frame until the buffer reaches a desired degree of fullness" Furuya discloses (col.7, lines 46-52 and col.12, line 60-col.13, line 3) that when the receiver detects that only one cycle of video data is present in the buffer memory of receiver, control data transmitting unit shortens

the transmitting time of the video data and uses the same video data until buffer memory reaches a certain level.

Regarding **claim 9,** "a method in which the controlling step comprises reproducing the content at a rate which is dependent on the normal reproduction duration of the content stored in the channel buffer" Furuya discloses (col.3, lines 40-44 and col.4, lines 53-56) that based on the data stored in the buffer, receiver receives and reproduces video data at a predetermined rate as represented in Fig. 9.

Regarding **claim 10,** "a method in which the controlling step comprises reproducing one frame at the destination station (18, 19, 32), maintaining that frame until the buffer reaches a predetermined degree of fullness" Furuya discloses (col.7, lines 46-52 and col.12, line 60-col.13, line 3) that when the receiver detects that only one cycle of video data is present in the buffer memory of receiver, control data transmitting unit shortens the transmitting time of the video data and uses the same video data until buffer memory reaches a certain level.

Furaya meets all the limitations of the claim except "subsequently reproducing the content at a rate lower than the production rate and then increasing gradually the reproduction rate" Russ discloses (¶0056 and ¶0062) that the master set-top box re-encodes the received signal to a lower bit-rate

format before transmitting to remote set-top boxes as represented in Fig. 2A (elements 281, 277). Russ further discloses (¶0054) that the controller at the remote STB shows low bit rate signal video and at some point in time, after higher quality signal finished encoding and started transmitting, the controller at remote STB merges high quality signal with low quality signal and gradually lowered quality signal would be removed, leaving only the standard high quality signal rate to be displayed. Therefore, it would have been obvious to one of the ordinary skills in the art at the time of the invention to modify Furuya's system by lowering reproduction rate at the destination station as taught by Russ in order to transfer audio/video stream using less bandwidth to multiple destination device (¶0044).

Regarding **claim 11,** "a method in which the controlling step comprises reproducing the content at the destination station (18, 19, 32) at a substantially constant rate until a desired level of buffer fullness is reached" Furuya discloses (col.18, lines 4-11 and col.19, lines 17-45) that the receiver reproduces the video data at a constant rate. When an underflow appears possible, control data message is sent to transmitter and transmitter sends video data to receiver until the desired level of buffer fullness is reached.

Furaya meets all the limitations of the claim except "content data is reproduced at destination station until buffer fullness is reached." Russ discloses (¶0056 and ¶0062) that the master set-top box re-encodes the received signal to

a lower bit-rate format before transmitting to remote set-top boxes as represented in Fig. 2A (elements 281, 277). Russ further discloses (¶0054) that the controller at the remote STB shows low bit rate signal video and at some point in time, after higher quality signal finished encoding and started transmitting, the controller at remote STB merges high quality signal with low quality signal and gradually lowered quality signal would be removed, leaving only the standard high quality signal rate to be displayed. Therefore, it would have been obvious to one of the ordinary skills in the art at the time of the invention to modify Furuya's system by lowering reproduction rate at the destination station as taught by Russ in order to transfer audio/video stream using less bandwidth to multiple destination device (¶0044).

Regarding **claim 12,** "a source station (15) for use in an audio-visual content transmission system" reads on the video server system includes a transmitter (source station) to transmit audio/video content to receiver (abstract) disclosed by Furuya and represented in Fig. 2.

As to "the source station including control means (53) for controlling content to be reproduced at a destination station (18, 19, 32) at a lower rate than the rate of production at the source station" Furuya discloses (col.16, lines 8-15; col.17, lines 7-16) that the control data transmitting units in transmitter and receiver controls the transmission cycle of the content being produced at the receiver as represented in Fig. 16 (element 308) and Fig. 17 (element 408).

Furaya meets all the limitations of the claim except "content is being reproduced at destination station at lower rate than a rate at the source station." However, Russ discloses (¶0056 and ¶0062) that the master set-top box re-encodes the received signal to a lower bit-rate format before transmitting to remote set-top boxes as represented in Fig. 2A (elements 281, 277). Therefore, it would have been obvious to one of the ordinary skills in the art at the time of the invention to modify Furuya's system by lowering reproduction rate at the destination station as taught by Russ in order to transfer audio/video stream using less bandwidth to multiple destination device (¶0044).

Regarding **claim 13,** "a station (15) in which the control means (53) is arranged to cause the reproduction at the destination station (18, 19, 32) of one frame, and to cause the maintenance of that frame until a buffer distributed between the source and destination stations reaches a desired degree of fullness" Furuya discloses (col.7, lines 46-52 and col.12, line 60-col.13, line 3) that when the receiver detects that only one cycle of video data is present in the buffer memory of receiver, control data transmitting unit shortens the transmitting time of the video data and uses the same video data until buffer memory reaches a certain level.

Regarding **claim 14,** "a station (15) in which the control means (53) is arranged to control the reproduction of the content at a destination station (18,

19, 32) at a rate which is dependent on the normal reproduction duration of contents stored in a channel buffer distributed between the source and destination stations" Furuya discloses (col.3, lines 40-44 and col.4, lines 53-56) that based on the data stored in the buffer, receiver receives and reproduces video data at a predetermined rate as represented in Fig. 9. Furuya further discloses (col.9, line 66-col.10, line 2, lines 20-22 and col.12, lines 18-23) that the system includes transmitter and receiver with a channel buffer as represented in Fig. 11 (elements 100, 200, 107, 202).

Regarding **claim 15,** A station (15) as claimed in claim 14, in which the control means (53) is arranged to control the destination station (18, 19, 32) to reproduce one frame, to maintain that frame until the buffer reaches a predetermined degree of fullness" Furuya discloses (col.7, lines 46-52 and col.12, line 60-col.13, line 3) that when the receiver detects that only one cycle of video data is present in the buffer memory of receiver, control data transmitting unit shortens the transmitting time of the video data and uses the same video data until buffer memory reaches a certain level.

Furaya meets all the limitations of the claim except "subsequently to reproduce the content at a rate lower than the production rate and then increase gradually the reproduction rate." However, Russ discloses (¶0056 and ¶0062) that the master set-top box re-encodes the received signal to a lower bit-rate format before transmitting to remote set-top boxes as represented in Fig. 2A

(elements 281, 277). Russ further discloses (¶0054) that the controller at the remote STB shows low bit rate signal video and at some point in time, after higher quality signal finished encoding and started transmitting, the controller at remote STB merges high quality signal with low quality signal and gradually lowered quality signal would be removed, leaving only the standard high quality signal rate to be displayed. Therefore, it would have been obvious to one of the ordinary skills in the art at the time of the invention to modify Furuya's system by lowering reproduction rate at the destination station as taught by Russ in order to transfer audio/video stream using less bandwidth to multiple destination device (¶0044).

Regarding **claim 16,** "a station (15) in which the control means (53) is arranged to control the reproduction of the content at the destination station (18, 19, 32) at a substantially constant rate until a desired level of buffer fullness is reached" Furuya discloses (col.18, lines 4-11 and col.19, lines 17-45) that the receiver reproduces the video data at a constant rate. When an underflow appears possible, control data message is sent to transmitter and transmitter sends video data to receiver until the desired level of buffer fullness is reached.

Furaya meets all the limitations of the claim except "content data is reproduced at destination station until buffer fullness is reached." Russ discloses (¶0056 and ¶0062) that the master set-top box re-encodes the received signal to a lower bit-rate format before transmitting to remote set-top boxes as

represented in Fig. 2A (elements 281, 277). Russ further discloses (¶0054) that the controller at the remote STB shows low bit rate signal video and at some point in time, after higher quality signal finished encoding and started transmitting, the controller at remote STB merges high quality signal with low quality signal and gradually lowered quality signal would be removed, leaving only the standard high quality signal rate to be displayed. Therefore, it would have been obvious to one of the ordinary skills in the art at the time of the invention to modify Furuya's system by lowering reproduction rate at the destination station as taught by Russ in order to transfer audio/video stream using less bandwidth to multiple destination device (¶0044).

Regarding **claim 17,** "a station (15) in which the control means (53) is arranged to control the destination station (18, 19, 32) to increase the reproduction rate in a substantially linear fashion until the intended reproduction rate is reached" Russ discloses (¶0056 and ¶0062) that the master set-top box re-encodes the received signal to a lower bit-rate format before transmitting to remote set-top boxes as represented in Fig. 2A (elements 281, 277). Russ further discloses (¶0054) that the controller at the remote STB shows low bit rate signal video and at some point in time, after higher quality signal finished encoding and started transmitting, the controller at remote STB merges high quality signal with low quality signal and gradually lowered quality signal would be removed, leaving only the standard high quality signal rate to be displayed.

Therefore, it would have been obvious to one of the ordinary skills in the art at the time of the invention to modify Furuya's system by lowering reproduction rate at the destination station as taught by Russ in order to transfer audio/video stream using less bandwidth to multiple destination device (¶0044).

Regarding **claim 18,** "a station in which the control means (53) is arranged to control the destination station (18, 19, 32) to decrease gradually the rate of reproduction rate increase" Furuya discloses (col.14, lines 54-67) that when video data in buffer is decreasing, cycle of transmitting video data is increased to reach the desired level of buffer.

Regarding **claim 30,** "a station including a personal video recorder" Furuya discloses (col.10, lines 23-26) that the transmitter device includes a magnetic disc drive device for storing video data as represented in Fig. 10 (element 105).

Furuya meets all the limitations of the claim except "the control means (53) being arranged to control the reproduction at the destination station (18, 19, 32) to equal substantially the intended reproduction rate." However, Russ discloses (¶0056 and ¶0062) that the master set-top box re-encodes the received signal to a lower bit-rate format before transmitting to remote set-top boxes as represented in Fig. 2A (elements 281, 277). Russ further discloses (¶0054) that the controller at the remote STB shows low bit rate signal video and at some

point in time, after higher quality signal finished encoding and started transmitting, the controller at remote STB merges high quality signal with low quality signal and gradually lowered quality signal would be removed, leaving only the standard high quality signal rate to be displayed. Therefore, it would have been obvious to one of the ordinary skills in the art at the time of the invention to modify Furuya's system by lowering reproduction rate at the destination station as taught by Russ in order to transfer audio/video stream using less bandwidth to multiple destination device (¶0044).

Regarding **claim 31,** "a station comprising means responsive to a detection that the delay imposed by a buffer distributed between the source and destination stations is substantially equal to a desired delay to control the production rate of the personal video recorder or the like to equal substantially the intended production rate" Furuya discloses (col.10, lines 42-53; col.12, lines 13-29; col.13, lines 54-63) that since the transmitter receives video data from the magnetic disk drive device and transmitter transmits this data to receiver, transmitter adjusts its transmitting rate to receiver, based on the control data received from the receiver that notifies transmitter of the desired level of buffer and all these data are synchronized to production rate.

Regarding **claim 32,** "a station comprising means responsive to a jump event for deleting or disregarding data in a or the channel buffer" Russ discloses

(¶0055) that the while signal is being transferred to display device, input buffer can be restored by removing jitter problems associated with input buffers. Therefore, it would have been obvious to one of the ordinary skills in the art at the time of the invention to modify Furuya's system by removing jitters from the buffer as taught by Russ in order to have uninterrupted transmission of video data.

Regarding **claim 33,** "a destination station (18, 19, 32) for use in an audio visual content transmission system" reads on the video server system includes a transmitter to transmit audio/video content to receiver (abstract) disclosed by Furuya and represented in Fig. 2. Furuya further discloses (col.9, line 66-col.10, line 2, lines 20-22 and col.12, lines 18-23) that the system includes transmitter and receiver with a channel buffer as represented in Fig. 11 (elements 100, 200, 107, 202).

As to "the destination station (18, 19, 32) including control means (88) for controlling content to be reproduced at a lower rate than a rate of production at the source station (15)" Furuya discloses (col.16, lines 8-15; col.17, lines 7-16) that the control data transmitting units in transmitter and receiver controls the transmission cycle of the content being produced at the receiver as represented in Fig. 16 (element 308) and Fig. 17 (element 408).

Furaya meets all the limitations of the claim except "content is being reproduced at destination station at lower rate than a rate at the source station."

However, Russ discloses (¶0056 and ¶0062) that the master set-top box re-encodes the received signal to a lower bit-rate format before transmitting to remote set-top boxes as represented in Fig. 2A (elements 281, 277). Therefore, it would have been obvious to one of the ordinary skills in the art at the time of the invention to modify Furuya's system by lowering reproduction rate at the destination station as taught by Russ in order to transfer audio/video stream using less bandwidth to multiple destination device (¶0044).

Regarding **claim 34,** "a station in which the control means (88) is arranged to reproduce one frame and to maintain that frame until buffer distributed between the source and destination stations reaches a desired degree of fullness" Furuya discloses (col.7, lines 46-52 and col.12, line 60-col.13, line 3) that when the receiver detects that only one cycle of video data is present in the buffer memory of receiver, control data transmitting unit shortens the transmitting time of the video data and uses the same video data until buffer memory reaches a certain level.

Regarding **claim 35,** "a station in which the control means (88) is arranged to reproduce the content at a rate which is dependent on the normal reproduction duration of the content stored in a channel buffer distributed between the source and destination stations" Furuya discloses (col.3, lines 40-44 and col.4, lines 53-

56) that based on the data stored in the buffer, receiver receives and reproduces video data at a predetermined rate as represented in Fig. 9.

Regarding **claim 36,** "a station in which the control means (88) is arranged to reproduce one frame, to maintain that frame until the buffer reaches a predetermined degree of fullness" Furuya discloses (col.7, lines 46-52 and col.12, line 60-col.13, line 3) that when the receiver detects that only one cycle of video data is present in the buffer memory of receiver, control data transmitting unit shortens the transmitting time of the video data and uses the same video data until buffer memory reaches a certain level.

Furaya meets all the limitations of the claim except "subsequently to reproduce the content at a rate lower than the production rate and then to increase gradually the reproduction rate" Russ discloses (¶0056 and ¶0062) that the master set-top box re-encodes the received signal to a lower bit-rate format before transmitting to remote set-top boxes as represented in Fig. 2A (elements 281, 277). Russ further discloses (¶0054) that the controller at the remote STB shows low bit rate signal video and at some point in time, after higher quality signal finished encoding and started transmitting, the controller at remote STB merges high quality signal with low quality signal and gradually lowered quality signal would be removed, leaving only the standard high quality signal rate to be displayed. Therefore, it would have been obvious to one of the ordinary skills in the art at the time of the invention to modify Furuya's system by lowering

reproduction rate at the destination station as taught by Russ in order to transfer audio/video stream using less bandwidth to multiple destination device (¶0044).

Regarding **claim 37,** "a station in which the control means (88) is arranged to reproduce the content at a substantially constant rate until a desired level of buffer fullness is reached" Furuya discloses (col.18, lines 4-11 and col.19, lines 17-45) that the receiver reproduces the video data at a constant rate. When an underflow appears possible, control data message is sent to transmitter and transmitter sends video data to receiver until the desired level of buffer fullness is reached.

Furaya meets all the limitations of the claim except "content data is reproduced at destination station until buffer fullness is reached." Russ discloses (¶0056 and ¶0062) that the master set-top box re-encodes the received signal to a lower bit-rate format before transmitting to remote set-top boxes as represented in Fig. 2A (elements 281, 277). Russ further discloses (¶0054) that the controller at the remote STB shows low bit rate signal video and at some point in time, after higher quality signal finished encoding and started transmitting, the controller at remote STB merges high quality signal with low quality signal and gradually lowered quality signal would be removed, leaving only the standard high quality signal rate to be displayed. Therefore, it would have been obvious to one of the ordinary skills in the art at the time of the invention to modify Furuya's system by lowering reproduction rate at the

destination station as taught by Russ in order to transfer audio/video stream using less bandwidth to multiple destination device (¶0044).

Regarding **claim 38,** "a station in which the control means (88) is arranged to increase the reproduction rate in a substantially linear fashion until the intended reproduction rate is reached" Russ discloses (¶0056 and ¶0062) that the master set-top box re-encodes the received signal to a lower bit-rate format before transmitting to remote set-top boxes as represented in Fig. 2A (elements 281, 277). Russ further discloses (¶0054) that the controller at the remote STB shows low bit rate signal video and at some point in time, after higher quality signal finished encoding and started transmitting, the controller at remote STB merges high quality signal with low quality signal and gradually lowered quality signal would be removed, leaving only the standard high quality signal rate to be displayed. Therefore, it would have been obvious to one of the ordinary skills in the art at the time of the invention to modify Furuya's system by lowering reproduction rate at the destination station as taught by Russ in order to transfer audio/video stream using less bandwidth to multiple destination device (¶0044).

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to PINKAL CHOKSHI whose telephone number is (571)

270-3317. The examiner can normally be reached on Monday-Friday 8 - 5 pm (Alt. Friday off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Pendleton can be reached on 571-272-7527. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/P. C./
Examiner, Art Unit 2425

/Brian T. Pendleton/
Supervisory Patent Examiner, Art Unit 2425